What is claimed is:

1. An electrostatic discharge device, comprising:

M pieces (M is an integer of two or more) of first well regions formed on a main surface of a semiconductor substrate of one conduction type, the first well regions being of a conduction type reverse thereto; and

a second well region of the one conduction type, the second well region being formed between the first well regions adjacent to each other,

wherein each of the M pieces of first well regions includes a first diffusion region of the reverse conduction type, and a second diffusion region of the one conduction type, both of which are formed therein, and at least one of a plurality of the second well regions includes a third diffusion region of the one conduction type, which is formed therein, and

the first diffusion region in a j-th (j is an integer that satisfies: $1 \leq j \leq (M-1)$) of the first well region is connected to the second diffusion region in a (j+1)-th of the first well region, the second diffusion region in the first well region at the first position is connected to a first terminal, the first diffusion region in an M-th of the first well region is connected to a second terminal, and the first terminal is connected to either one of desired terminal to be protected and discharge terminal, and the second terminal is connected to the other,

wherein the second well region is formed of a single region between the first well regions adjacent to each other, and the third diffusion region is divided into a plurality of regions spaced from one another between the first well regions adjacent to each other.

2. An electrostatic discharge device, comprising:

M pieces (M is an integer of two or more) of first well regions formed on a main surface of a semiconductor substrate of one conduction type, the first well regions being of a conduction type reverse thereto; and

a second well region of the one conduction type, the second well region being formed between the first well regions adjacent to each other,

wherein each of the M pieces of first well regions includes a first diffusion region of the reverse conduction type, and a second diffusion region of the one conduction type, both of which are formed therein, and at least one of a plurality of the second well regions includes a third diffusion region of the one conduction type, which is formed therein, and

the first diffusion region in a j-th (j is an integer that satisfies: $1 \leq j \leq (M-1)$) of the first well region is connected to the second diffusion region in a (j+1)-th of the first well region, the second diffusion region in the first well region at the first position is connected to a first terminal, the first diffusion region in an M-th of the first well region is connected to a second terminal, and the first terminal is connected to either one of desired terminal to be protected and discharge terminal, and the second terminal is connected to the other,

wherein the second well region is divided into a plurality of regions spaced from one another between the first well regions adjacent to each other.

3. An electrostatic discharge device, comprising:

M pieces (M is an integer of two or more) of n-type first

well regions formed on a main surface of a p-type semiconductor region; and

a p-type second well region formed between the first well regions adjacent to each other,

wherein each of the M pieces of first well regions includes an n-type first diffusion region, and a p-type second diffusion region, both of which are formed therein, and at least one of a plurality of the second well regions includes a p-type third diffusion region formed therein, and

the first diffusion region in a j-th (j is an integer that satisfies: $1 \leq j \leq (M-1)$) of the first well region is connected to the second diffusion region in a (j+1)-th of the first well region, the second diffusion region in the first well region at the first position is connected to a first terminal, the first diffusion region in an M-th of the first well region is connected to a second terminal, and the first terminal is connected to either one of desired terminal to be protected and discharge terminal, and the second terminal is connected to the other.

4. The electrostatic discharge device, according to claim 1, wherein the one conduction type is p type.

5. The electrostatic discharge device, according to claim 3, wherein the third diffusion region is formed only in the second well region formed between the highest potential first well region that is the first well region at the first position, which includes the second diffusion region connected to the first terminal, and the first well region adjacent thereto.

6. An electrostatic discharge device, comprising:

M pieces (M is an integer of two or more) of first well regions formed on a main surface of a semiconductor substrate of one conduction type, the first well regions being of a conduction type reverse thereto; and

a second well region of the one conduction type, the second well region being formed between the first well regions adjacent to each other,

wherein each of the M pieces of first well regions includes a first diffusion region of the reverse conduction type, and a second diffusion region of the one conduction type, both of which are formed therein, and at least one of a plurality of the second well regions includes a third diffusion region of the one conduction type, which is formed therein, and

the first diffusion region in a j-th (j is an integer that satisfies: $1 \leq j \leq (M-1)$) of the first well region is connected to the second diffusion region in a (j+1)-th of the first well region, the second diffusion region in the first well region at the first position is connected to a first terminal, the first diffusion region in an M-th of the first well region is connected to a second terminal, and the first terminal is connected to either one of desired terminal to be protected and discharge terminal, and the second terminal is connected to the other.

7. The electrostatic discharge device according to claim 5,

wherein each of the second well region and the third diffusion region is formed of a single region between the first well regions adjacent to each other.

8. The electrostatic discharge device according to claim 1,

wherein the M is a minimum n satisfying:

$$|Vx| < n \times |Vf|$$

where, during a normal operation, Vx and If are a maximum voltage to be applied to the desired terminal to be protected and discharge terminal and a rated value of a maximum leak current allowable therebetween, respectively, Vf is a potential difference between the first well region and the second diffusion region when a current of a value If is flown to a diode formed of the first well region and the second diffusion region in a forward direction, and n is an arbitrary integer.

9. The electrostatic discharge device according to claim 1, wherein a shallow trench isolation region is provided between the first diffusion region and the second diffusion region.

10. The electrostatic discharge device according to claim 1, wherein no insulating film is formed in an internal region of the semiconductor substrate between the first diffusion region and the second diffusion region, which are formed in the one first well region.

11. The electrostatic discharge device according to claim 10, wherein a predetermined electrode material film is formed on the surface of the semiconductor substrate between the first diffusion region and the second diffusion region, which are formed in the one first well region, by interposing the insulating film therebetween.

12. The electrostatic discharge device according to claim 1, wherein at least one of the third diffusion region is

coupled, by a metal wire, to a power supply wire at a predetermined potential.